

NOTE

Notes on the Ethology of *Bohartia martini* Adisiomarto and Wood (Diptera: Asilidae)  
in Wyoming, USA

*Bohartia martini* Adiseomarto and Wood, 1975 is an extremely small, rarely observed species, having only been collected previously in Wyoming at the Mesa Conservation Area. [Paratype—"1 male, Mesa Conserv. Area, So. of Pinedale;" (Adiseomarto and Wood 1975).] [Author's note: Dr. Wood returned 10 additional specimens of *Bohartia martini* to the University of Wyoming, College of Agriculture Insect Collection that were part of the type series and were so labelled.]

Recognition characters for *B. martini* are as follows: Blackish species. Length 6-8 mm. Mystax mostly white. Second antennal segment usually with some reddish or brown bristles. Thorax white to slightly yellowish and silvery-gray pollinose; scutellar bristles black. Wing hyaline with dark brown veins. Abdomen reddish brown to black. Femora black, tibiae reddish at least at base dorsally, fore tibia with fringe-like hairs on posterior surface. Male hypandrium bulging ventrally near base.

A small population of *Bohartia martini* was studied briefly in the Red Desert of Wyoming, 3.3 mi N of the ghost town of Tipton Junction off Tipton Road in Sweetwater County. Observations were made intermittently from 27 June to 9 July, 1978. These few notes are being offered because no biological data on members of the genus have been published previously.

Vegetation in the study area was composed of typical arid land species: *Agropyron spicatum* (Pursh) Scribn. & Sm., *Oryzopsis hymenoides* (R & S) Ricker ex

Piper, *Artemesia tridentata* Nutt., *Tetradymia canescens* DC., *Arenaria hookeri* Nutt. var. *hookeri*, *Salsola kali* L., *Eriogonum brevicaulum* Nutt. ssp. *micranthum* (Nutt) Reveal, *Leptodactylum pungens* (Torr.) Nutt., *Cirsium pulcherrimum* (Rydb.) K. Schum., *Chrysothamnus nauseosus* (Pall ex Pursh) Britt., *Chrysothamnus viscidiflorus* (Hook.) Nutt., and *Haplopappus armerioides* (Nutt.) Gray (Fig. 1). *Bohartia martini* shared the habitat with a population of *Dicropaltum mesae* (Tucker), a slightly larger species, but no interactions were observed. Surface temperatures on site ranged from 91 to 111°F when observations were made. Specimens were observed landing on the soil surface, on twigs lying on the surface (Fig. 2), on plant debris, on grass stems, and on dead twigs of *Artemisia* to a height of 3.6 cm (1.5 in).

Foraging.—Prey were collected from the air in short capture darts, not exceeding 15 cm (6 in). On one occasion an asilid was observed to hover briefly while manipulating prey, which it subsequently released. Prey may be manipulated during feeding: the asilid rears backwards using its fore and hind tarsi for manipulation, while balancing itself on the middle legs [This same type of manipulation is exhibited by *Lasiopogon cinereus* (Cole) (Lavigne and Holland 1969)]. In one sequence at 10:33.30, a female captured a small leafhopper (Cicadellidae) at the end of a 15 cm capture dart. She subsequently moved several times, flying less than 30 cm each time. Prey was manipulated at 10:43 and 10:44. At 10:47

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Figs. 1-2. 1 (top) Rangeland site near Tipton Junction, Wyoming, where behavioral observations of *Bohartia martini* were made. 2 (bottom), A female of *B. martini* resting on soil surface with fore tarsi placed on piece of debris.

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2



she made an approximate 30 cm (12 in) flight during which she discarded the prey. A total of 19 prey were collected on four separate dates by foraging *Bohartia*. These represented two Insect Orders. However all, but the single leafhopper, were Coleoptera [Melyridae: Dastinae], suggesting a fixation on this beetle. Four of the beetles were taken by males and the rest by females

Mating.—There apparently is no courtship exhibited by males of this species. A single complete mating was observed at 1:54 pm on 27 June. The female flew into the air, having been disturbed by the jumping of a grasshopper. The male caught her in mid-air and the pair tumbled to the soil, rolled and came up mated in the tail-to-tail position. They flew into the shade (94°F) and at 1:58, the pair suddenly separated and flew off in different directions. A second mated pair in the tail-to-tail position was observed at 3:07 on 3 July on the hardpan surface where the temperature was recorded as being 110°F.

#### LITERATURE CITED

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